

What is claimed is:

1. An ultraviolet water treatment system comprising:
a water chamber having a water intake for untreated water to enter said chamber,
and a water outlet for water to leave said chamber;
an ultraviolet light source; and
a fibre optic rod having a distributing end and a receiving end, said receiving end
being located to receive said ultraviolet light from said light source and convey said light
through said rod and out said distributing end into said chamber to treat said water.
2. An ultraviolet water treatment system as claimed in claim 1, wherein said ultraviolet
light source has a reflector for focusing said ultraviolet light at said distributing end,
3. An ultraviolet water treatment system as claimed in claim 2 wherein said ultraviolet
light is focussed at a remote focal point in said distributing end.
4. An ultraviolet water treatment system as claimed in claim 3, wherein said receiving
end of said fibre optic rod is located at said remote focal point.
5. An ultraviolet water treatment system as claimed in claim 4, wherein said reflector is
ellipsoidal in shape and axially disposed around said light source.
6. An ultraviolet water treatment system as claimed in claim 1, wherein said receiving
end has an optical lens for further focusing said ultraviolet light.
7. An ultraviolet water treatment system as claimed in claim 1, wherein said ultraviolet
light source is housed in a light chamber attached to and having an opening to said water
chamber, said opening through which said receiving end of said fibre optic rod is situated
whereby said distributing end is situated in said water chamber.

8. An ultraviolet water treatment system as claimed in claim 7, wherein said rod is tapered to fit and seal in said opening.
9. An ultraviolet water treatment system as claimed in claim 8, wherein said rod is tapered by 5 degrees.
10. An ultraviolet water treatment system as claimed in claim 9, wherein said rod is secured in said opening with an adhesive bond.
11. An ultraviolet water treatment system as claimed in claim 7, wherein said light chamber has ventilation means.
12. An ultraviolet water treatment system as claimed in claim 1, wherein said fibre optic rod is quartz.
13. An ultraviolet water treatment system as claimed in claim 1, wherein said fibre optic rod comprises an index matching fluid.
14. An ultraviolet water treatment system as claimed in claim 13, wherein said index matching fluid is de-ionized water.
15. An ultraviolet water treatment system as claimed in claim 13, wherein said fibre optic rod further comprises an air ballast.
16. An ultraviolet water treatment system as claimed in claim 1, wherein said water chamber has a reflective interior surface.
17. An ultraviolet water treatment system as claimed in claim 1, wherein said water chamber has a removable portion for access into said water chamber.

18. An ultraviolet water treatment system as claimed in claim 1, wherein said rod has a rod body having an optical lens in said receiving end for focusing said ultraviolet light into said rod and a lens in said distributing end to transmit and concentrate said ultraviolet light into the water for treatment.

19. An ultraviolet water treatment system as claimed in claim 2 wherein said reflector is one of a dichroic reflector or a spun aluminium reflector.